

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1-14, 16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calhoun et al. (US 5,585,178).

Regarding claim 1, Calhoun discloses an adhesive tape whereby it is indicated that such adhesive tapes are typically used to bond two substrates (abstract; column 1, lines 15-20). Calhoun further discloses that tape comprises a carrier web whereby a first and second adhesive layer are applied to one of the surfaces in a desired design pattern with suitable choices for the first and second adhesives being pressure-sensitive and thermosetting (i.e. activatable) variety (column 5, line 49 through column 6, line 17). It is also noted that a suitable carrier web is metal (column 10, lines 21-24). From the design on the figure (figure 1) it is clear that the adhesive layer comprises domains of each of the first and second adhesive layers which can be chosen from among pressure-sensitive and thermosetting varieties.

Calhoun fails to explicitly teach the dual adhesive layers being applied to both layers of the carrier web.

It would have been obvious to duplicate the adhesive on both sides of the carrier web because such merely produces a double-sided adhesive tape with the carrier web providing stability and it is noted that double sided adhesives are a common embodiment in the art of adhesives. Double-sided adhesives are well known across many arts and an ordinary skilled artisan would have been motivated to include said second adhesive layer in instances where the application of the tape required the bonding of the faces of two substrates (i.e. the adjacent placement of two substrates with the tape traversing the two so as to bond is not a desired arrangement). Also, note

that it has been held that the mere duplication of a component (i.e. adhesive layer) involves only routine skill in the art and is therefore a matter of obviousness. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In this instance the mere duplication of the adhesive on the opposite face of the carrier web produces the expected result of a double-sided adhesive.

Regarding claim 2, as set forth above Calhoun utilizes a metal carrier web but no metal is specifically stated. Given that Calhoun recognizes the generalized utilization of metal it would have been apparent that many of such are equally suitable. It would have been obvious to an ordinary skilled artisan to select a specific metal that is most favorable for a present application based on a number of considerations that would include but are not necessarily limited to cost, availability, strength, conductance, and melting temperature. Also, the courts have held it to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 3, Calhoun appreciates the perforation of the carrier web whereby the perforations are filled with adhesive (figure 6). Calhoun discloses that the pressure-sensitive adhesive can fill said voids (column 8, lines 15-18).

Regarding claims 4 and 5, as set forth above Calhoun appreciates the dual adhesive localizations on a carrier web and with double-sided adhesives being well known it would have been obvious to merely duplicate the dual adhesive localizations on the opposite side of the carrier web. Also, as set forth above it is also known by Calhoun to create perforations in the carrier web so as to allow the adhesive to traverse

both sides thereof. Calhoun also discloses that the relative amounts and design patterns of the adhesives can be varied as desired (column 5, lines 60-65). Given that the designs are obvious as presented by Calhoun it would have merely been a design choice that falls within the scope of Calhoun to provide the activatable domains opposite one another in relation to the carrier web.

Regarding claim 6, as seen in the figure, the adhesive tape of Calhoun utilizes the two distinct adhesive types that can each be thermosetting and pressure sensitive respectively as indicated above and it can be noticed that layout of the dual adhesive layer defines that adhesive surface of the tape (figure 1).

Regarding claim 7 and 10, Calhoun indicates that suitable adhesives include acrylics and epoxies (column 10, lines 52-55). Epoxies are a thermosetting polymer that cures (crosslinks) under heat.

Regarding claims 8 and 9, as set forth above Calhoun appreciates the changes in design and orientation of the adhesive localizations. Calhoun specifically indicates that the use of the dual adhesives allows for the system to behave as if it were two separate adhesives and by mixing and matching the adhesive, the tape can be made to have a high initial tack due to one of the adhesives and the second adhesive can build strength during aging (column 3. lines 29-35). Given that the functionality of each of the adhesives is characterized by Calhoun it would have been an obvious matter to rearrange the adhesive localizations to certain areas where initial tack and/or long term bonding were desired.

Regarding claim 11, as set forth above perforations in the carrier web are known for allowing the adhesive to fill the voids and traverse the composite. It is not specified that the traversing adhesive must be the PSA so it is apparent that either the activatable or PSA are equally suitable. It is also reiterated that perforations for allowing the adhesive to traverse the composite are known and modifying the design to achieve the desired bonding at certain areas is known. An ordinary skilled artisan presented with the invention of Calhoun would have been motivated to fill the voids with PSA to create a strong initial bond that traverses the adhesive tape and in the alternative would have been motivated to fill the voids with the activatable adhesive (epoxy) to achieve a strong permanent bond that traverses the adhesive tape. Based upon the desired application it would have been apparent which one was more suitable.

Regarding claim 12, as set forth above the dual sided adhesive tape with domains of each of the adhesives would have been obvious in view of Calhoun. Merely using the adhesive for its intended purpose (i.e. bonding substrates) is a matter of obviousness since, as indicated above, Calhoun submits that adhesives are typically used to bond two substrates. As for contacting the substrates with the tape before activating the epoxy such would have been common sense since it would serve no purpose to prematurely activate the adhesive prior to it being in contact with the substrate with the realization that Calhoun's invention exploits the fact that the PSA (pressure sensitive adhesive) can hold the substrates in contact while a second adhesive builds bond strength (i.e. an activatable adhesive is activated so as to affect a bond that strengthens with treatment) (column 3, lines 29-35).

Regarding claims 13, 19 and 20, the merits have been addressed above.

Regarding claim 14, though Calhoun does not specifically indicate the bonding motor vehicle components the invention is a generalized two component adhesive that can include various adhesives chosen based upon desired physical and mechanical properties (column 10, lines 43-48). Since the invention is an adhesive for adhering substrates and can be tailored via the choice of adhesive to obtain the desired physical and mechanical properties there is no reason to indicate that the adhesive of Calhoun would not be fully functional in bonding motor vehicle components especially in lieu of the activatable epoxies because even Calhoun appreciates that the heat hardenable adhesive varieties tend to be useful in structural applications (i.e. applications where the integrity of the bond is paramount) (column 1, lines 18-23). Absent any teaching otherwise there is nothing to suggest that Calhoun is not applicable to bonding motor vehicle components.

Regarding claims 16 and 18, such is an intended use of the adhesive tape and not germane to the patentability of the product. The adhesive of Calhoun is capable of bonding a component of a motor vehicle and therefore satisfies the merits of the claim.

5. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calhoun et al. (US 5,585,178), as applied above, and further in view of Assink (US 5,580,413).

Regarding claims 15 and 17, Calhoun teaches or suggests the invention of claims 1 and 4 as set forth above though fails to teach the additional inclusion of a release liner to protect the adhesive surface.

Assink, drawn to a taping apparatus utilizing a composite tape, discloses that the exposed side of adhesive on the tape can be covered by release paper (column 3, lines 21-23).

It would have been obvious to include the release paper covering the exposed adhesive side in view of Assink because such was known for both preventing accidental premature adhesion and for preventing the collection of dust and debris on the adhesive side (column 3, lines 22-27).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL N. ORLANDO whose telephone number is (571)270-5038. The examiner can normally be reached on Monday-Thursday, 7:30am-4:30pm, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip C. Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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